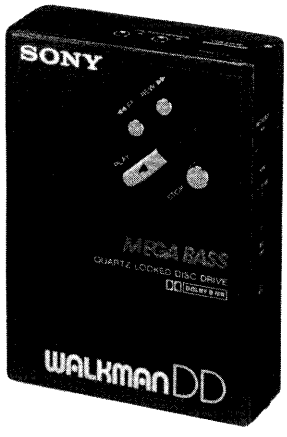
WM-DD30

SERVICE MANUAL

AEP Model
UK Model



Model Name Using Similar Mechanism	WM-DD
Tape Transport Mechanism Type	MT-WMDD30-24

SPECIFICATIONS

Frequency response
40 – 15,000 Hz
Wow and flutter
± 0.13% (DIN)
0.08% WRMS (NAB)
Power output
Headphones:
10 mW + 10 mW (at 10% harmonic distortion)
load impedance 32 ohms
at DC operation
Outputs
Two HEADPHONES jacks (stereo minijacks)
load impedance 8 – 300 ohms
Power requirements
3 V DC, two R6 (size AA) batteries
DC IN 3 V jack accepts:
EBP-500B battery case (optional) for use on two R20 (size D) batteries
AC-D2M AC power adaptor (optional) for use on 220 V AC, 50 Hz
DCC-70 car battery cord (optional) for use with 12 V car battery
Battery life

Batteries	Continuous playback hours
Sony batteries SUM-3 (NS)	Approx. 4
Sony alkaline batteries AM3 (N)	Approx. 9

For maximum performance we recommend the use of alkaline batteries.
Dimensions
Approx. 79.7 × 110 × 32.8 mm (w/h/d)
($3^1/_4$ × $4^3/_8$ × $1^5/_{16}$ inches)
incl. projecting parts and controls
Weight
Approx. 290 g (10.3 oz) incl. batteries, not incl. other accessories
Accessories supplied
Stereo headphones (1)
Carrying case (1)
Battery tube (1)

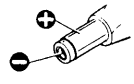
Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

Optional Accessories

AC power adaptor	AC-D2M
Battery case	EBP-500B
Car battery cord	DCC-70

Note: If a car battery cord or an AC power adaptor not manufactured by Sony is used, a fuse must be installed in the battery cord or the AC power adaptor and the polarity of the plug must be as illustrated.



FEATURES

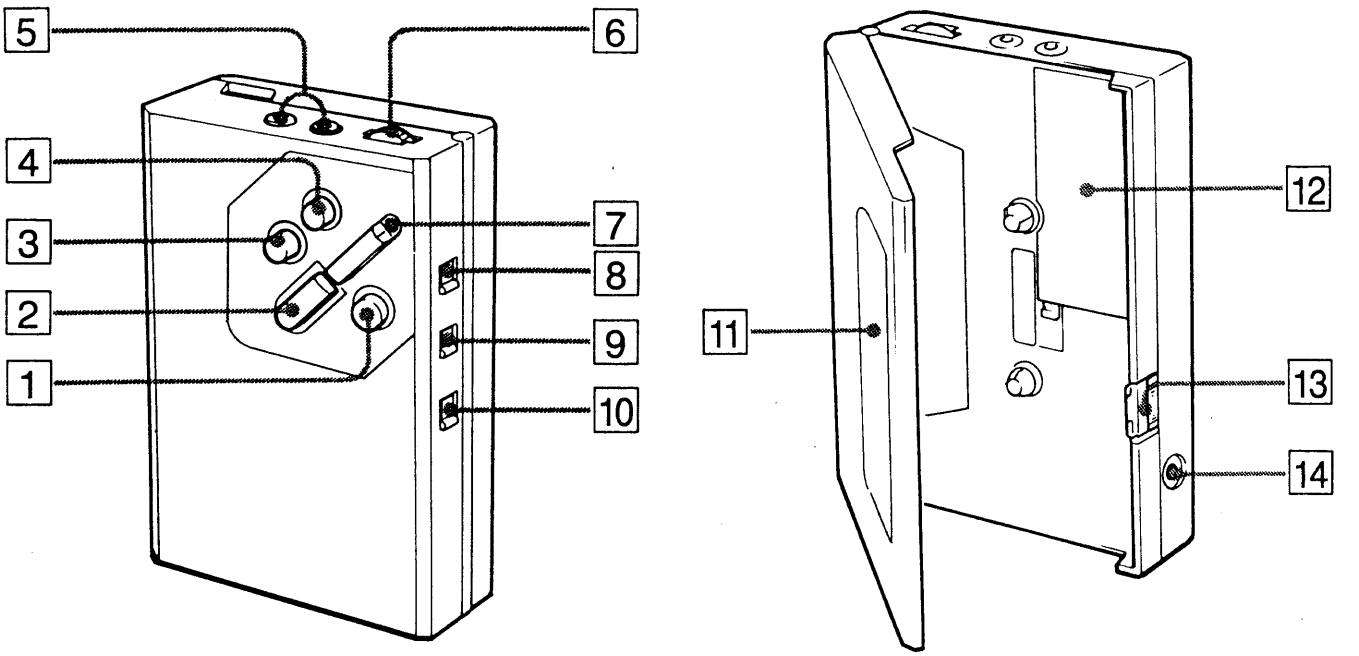
- **Disc Drive system** assures accurate and stable tape transport, greatly reducing wow and flutter.
- **Dolby NR* system** reduces tape hiss noise.
- **Two HEADPHONES jacks** allow two persons to listen to tape playback together.
- **The MEGA BASS selector** for heavy and powerful Mega bass sound

STEREO CASSETTE PLAYER

SONY®

SECTION 1
GENERAL

Parts Identification



1 ■ STOP button
2 ◀ PLAY button
3 ◀◀ FF (fast forward) button
4 REW ▶▶ (rewind) button
5 HEADPHONES jacks (stereo minijacks)
6 VOLUME control
7 BATTERY indicator
8 MEGA BASS selector
9 DOLBY NR switch
10 TAPE selector
11 Cassette holder
12 Battery compartment lid
13 OPEN button
14 DC IN 3 V (external power input) jack

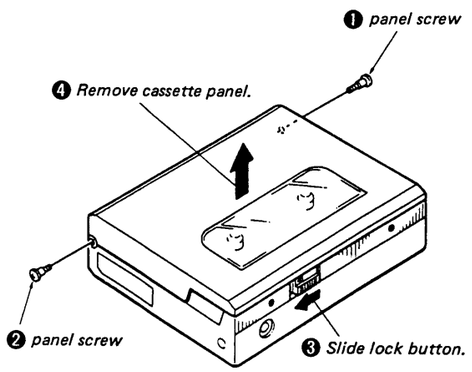
Note:

MECHANICAL OPERATION in this set is the same as that of model WM-DD, so refer to WM-DD service manual previously issued for MECHANICAL OPERATION.

SECTION 2
DISASSEMBLY

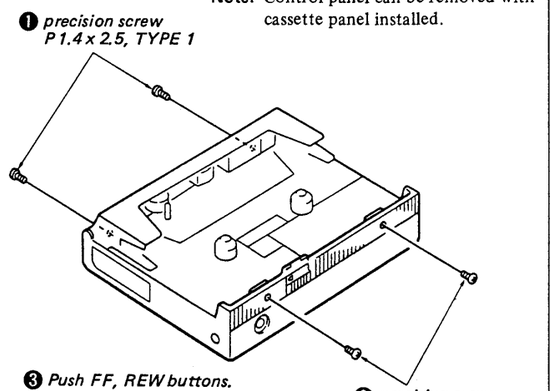
Note: Follow the disassembly procedure in the numerical order given.

Cassette Panel

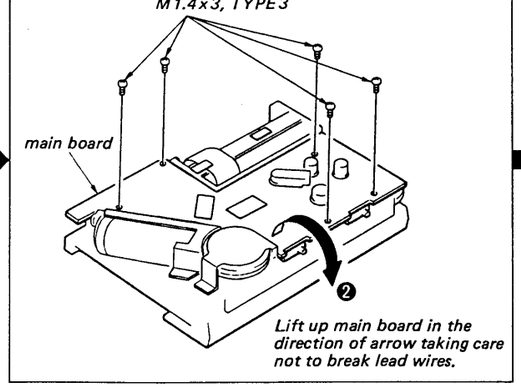


Control Panel

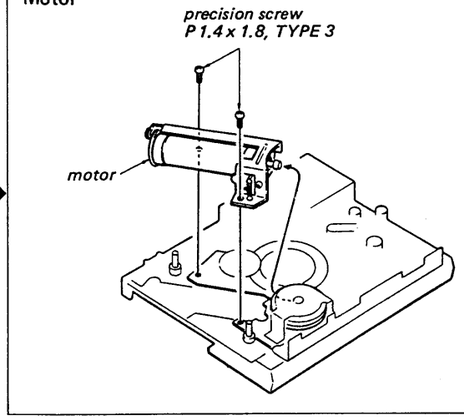
Note: Control panel can be removed with cassette panel installed.



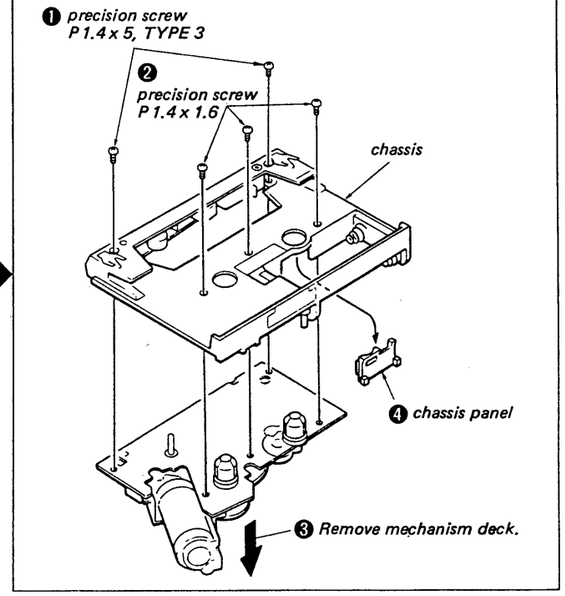
Main Board



Motor

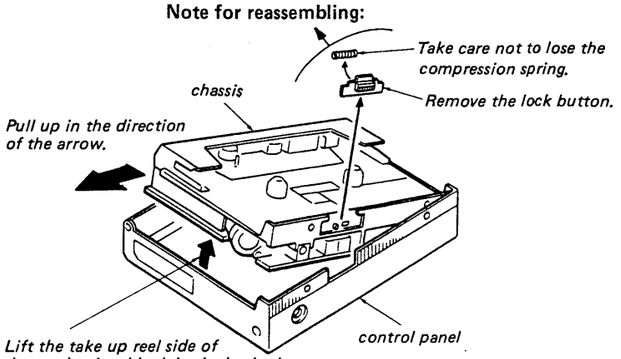


Chassis



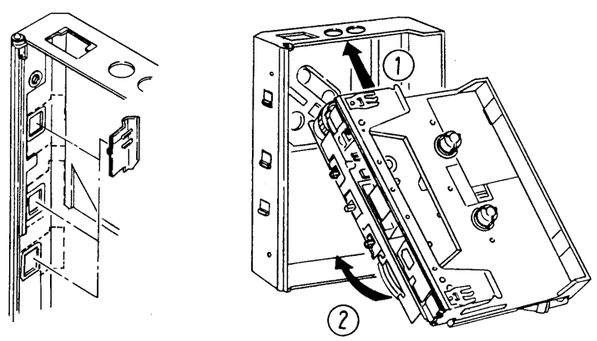
Chassis

Note for reassembling:

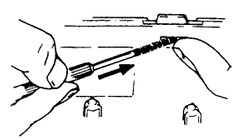


Note for reassembling:

(A) (B)



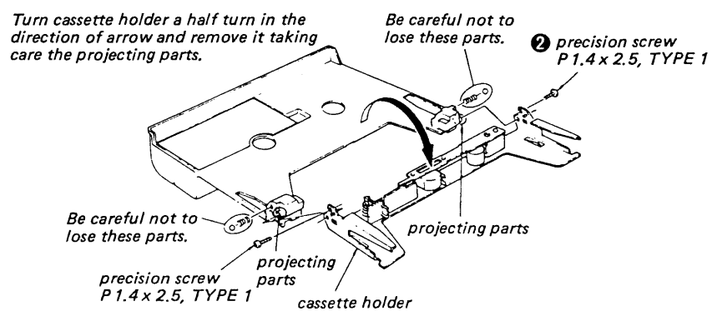
(Installing the compression spring)



A) Insert the portion (A) of DOLBY BUTTON and TAPE BUTTON into the slit as shown.

B) Set the control panel up. Set DOLBY SWITCH and TAPE SWITCH on the main board at OFF position and METAL. Then put the mechanical unit into the control panel following the numbers (1) and (2).

Cassette holder



Pinch roller and head can be replaced.

SECTION 3
ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

   playback head pinch roller
   capstan

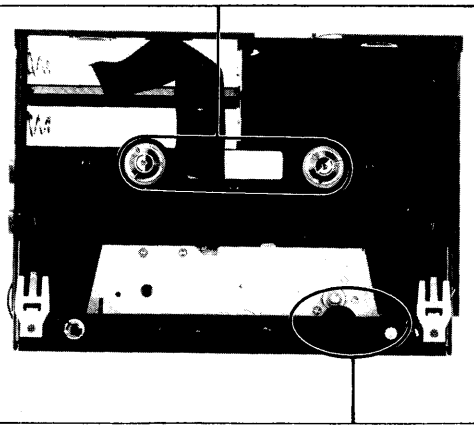
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

3-1. MECHANICAL ADJUSTMENT

Torque Measurement

Perform with 2.5 V DC power.

	Torque meter	Meter reading
FWD	CQ-102C	22 – 46 g·cm (0.3 – 0.63 oz·inch)
FF, REW	CQ-201B	More than 65 g·cm (More than 9.04 oz·inch)
Back Tension	CQ-102C	1 – 3.5 g·cm (0.01 – 0.05 oz·inch)
Tape Pulling Force	CQ-403	More than 80 g·cm (More than 11.12 oz·inch)



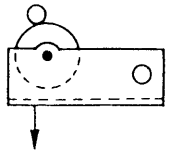
Pinch Roller Pressure Adjustment

– Playback Mode –

1. Pull the spring scale in the direction shown by the arrow.
2. Slowly return the pinch roller and read the spring scale just when the pinch roller starts rotating.

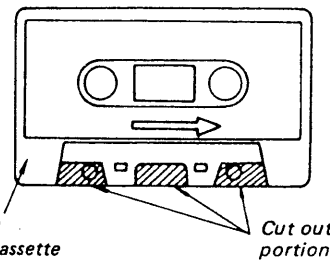
Specification:

170 ± 20 g (5.3 ~ 6.7 oz)

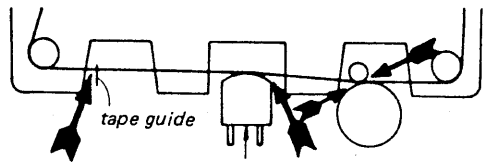


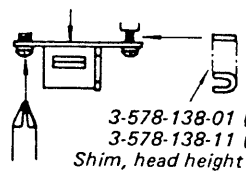
Head Height Adjustment

1. Prepare an adjustment cassette as shown below.

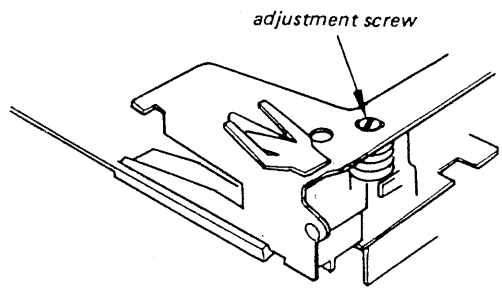


2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shown by the arrow.



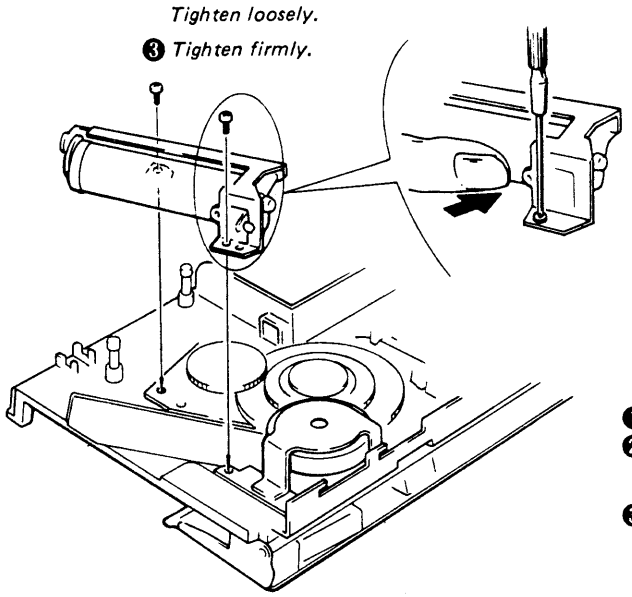


3. If necessary, adjust the height of the tape-guide by turning the adjustment screw.



4. Apply locking compound on adjustment screw.

3-1-1. Motor section installation



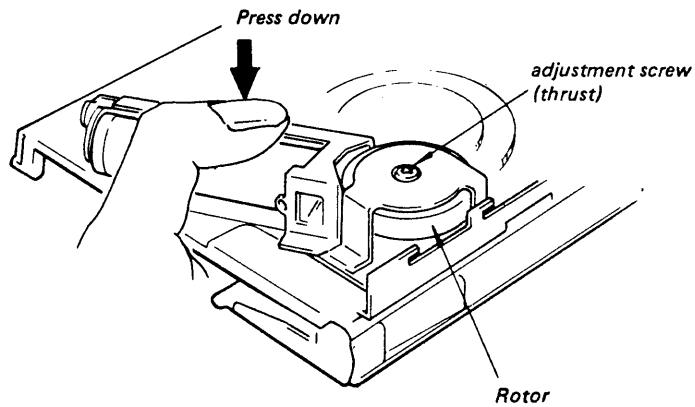
❶ Tighten screw loosely.
❷ Tighten screw while pressing the motor section lightly in the direction of the arrow.
❸ Tighten the screw.

3-1-2. Wow & flutter and motor position

1. Adjust with the adjustment screw so that rotor thrust play is within 0.1mm. (When confirming play, press motor down so that the motor pulley and rotor rubber section do not touch.)
2. Wow & flutter adjustment

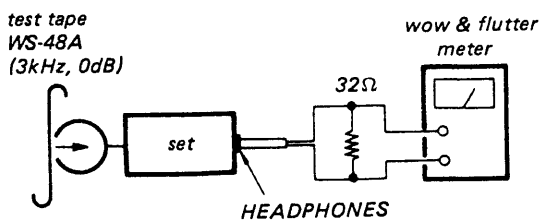
Setting:

Power supply voltage: 2.5V
Tape: Adjust by using end portion of tape.
VOLUME control: mechanical mid
TAPE SELECT switch: NORM
DOLBY NR switch : OFF
MEGABASS switch : NORM



Procedure:

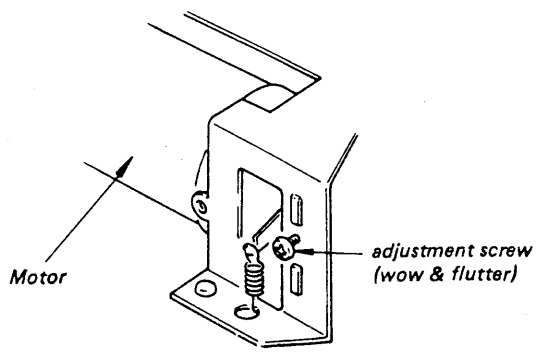
① Mode: playback



Turn the adjustment screw so that the wow and flutter meter reads minimum (less than 0.13% W·RMS).

② At 3.6V power supply voltage, confirm normal FWD operation.

③ When ① and ② are not satisfied, repeat adjustment again starting with "Motor Section Installation".



3-2. ELECTRICAL ADJUSTMENTS

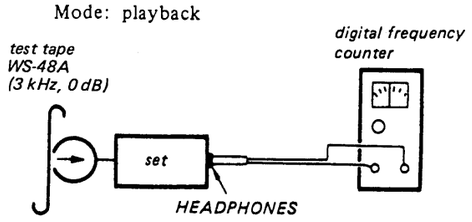
Tape Speed Adjustment

Setting:

VOLUME control: mechanical mid
TAPE SELECT switch: NORM
DOLBY NR switch: OFF
MEGABASS switch : NORM

Procedure:

Mode: playback



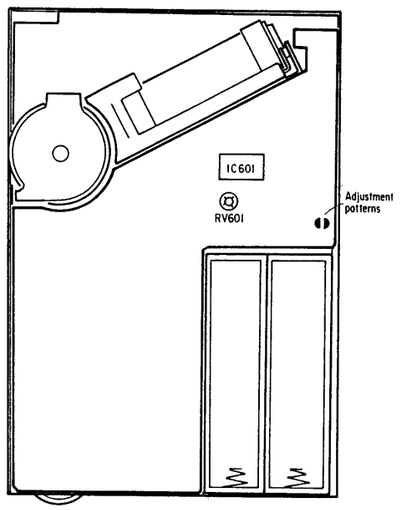
1. Open the solder bridge shown below.
2. Turn RV601 so that frequency reading becomes in 3090 Hz ± 10 Hz. (at the ending part of the test tape)
3. Resolder the adjustment patterns opened in step 2 above. Now frequency reading should becomes in 3000 Hz ± 9 Hz.

Specification:

Digital frequency counter
3000 Hz ± 9 Hz

Adjustment Location:

– main board –



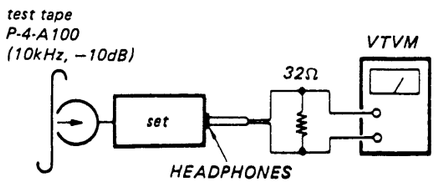
Playback Head Azimuth Adjustment

Setting:

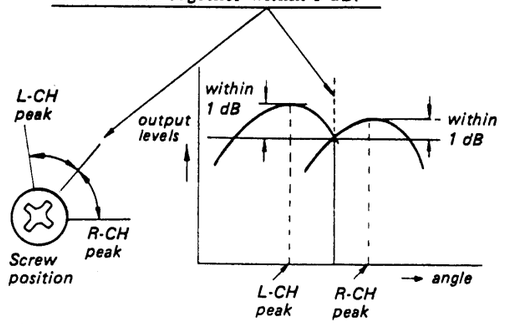
VOLUME control: mechanical mid
TAPE SELECT switch: NORM
DOLBY NR switch: OFF
MEGABASS switch : NORM

Procedure:

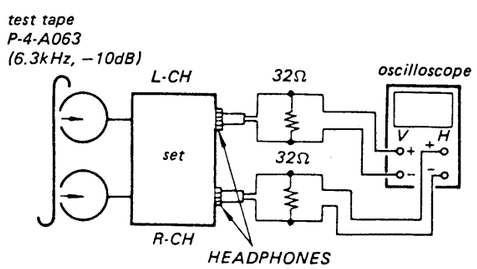
1. Mode: playback

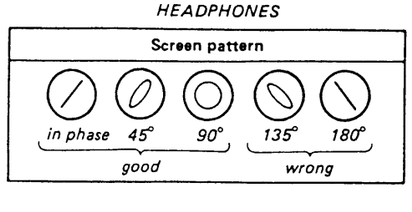


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.

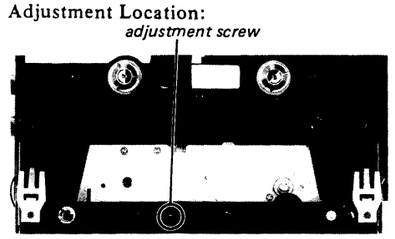


3. Phase Check
   Mode: playback



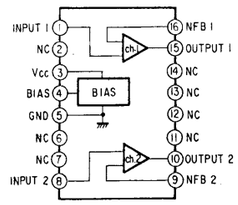


Adjustment Location:

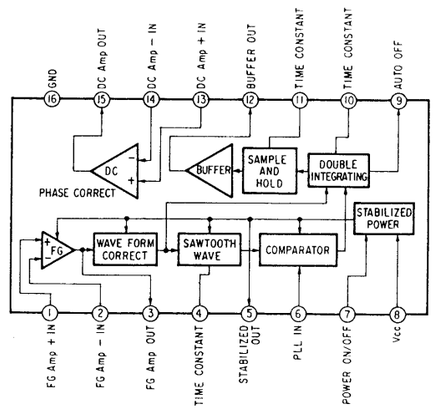


IC BLOCK DIAGRAMS

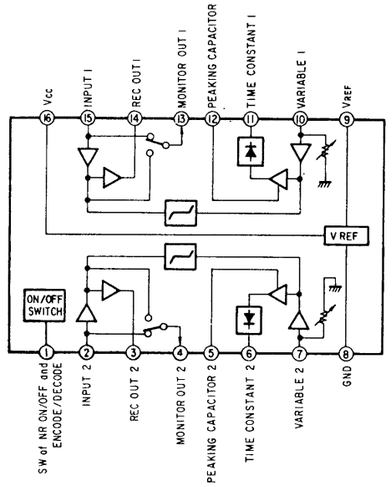
IC301 BA3304F



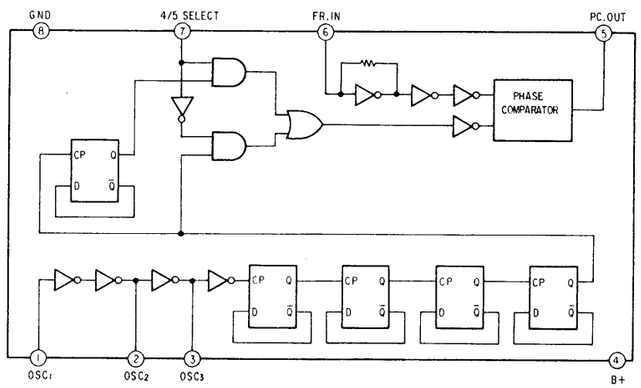
IC601 CX20084



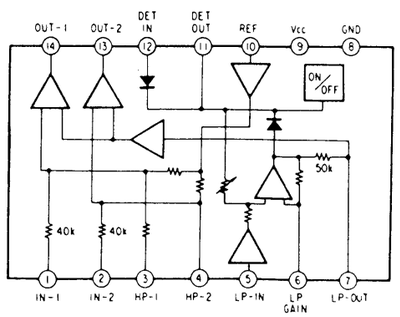
• IC302 NJM2063AM



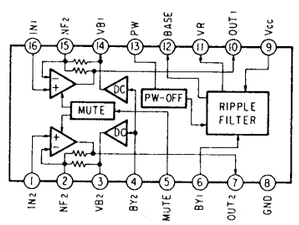
• IC602 MSM58141RS



• IC303 CXA1249M



• IC304 TA7688F



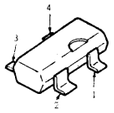
SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS

- Semiconductor Lead Layouts

LN1251CA

MA724

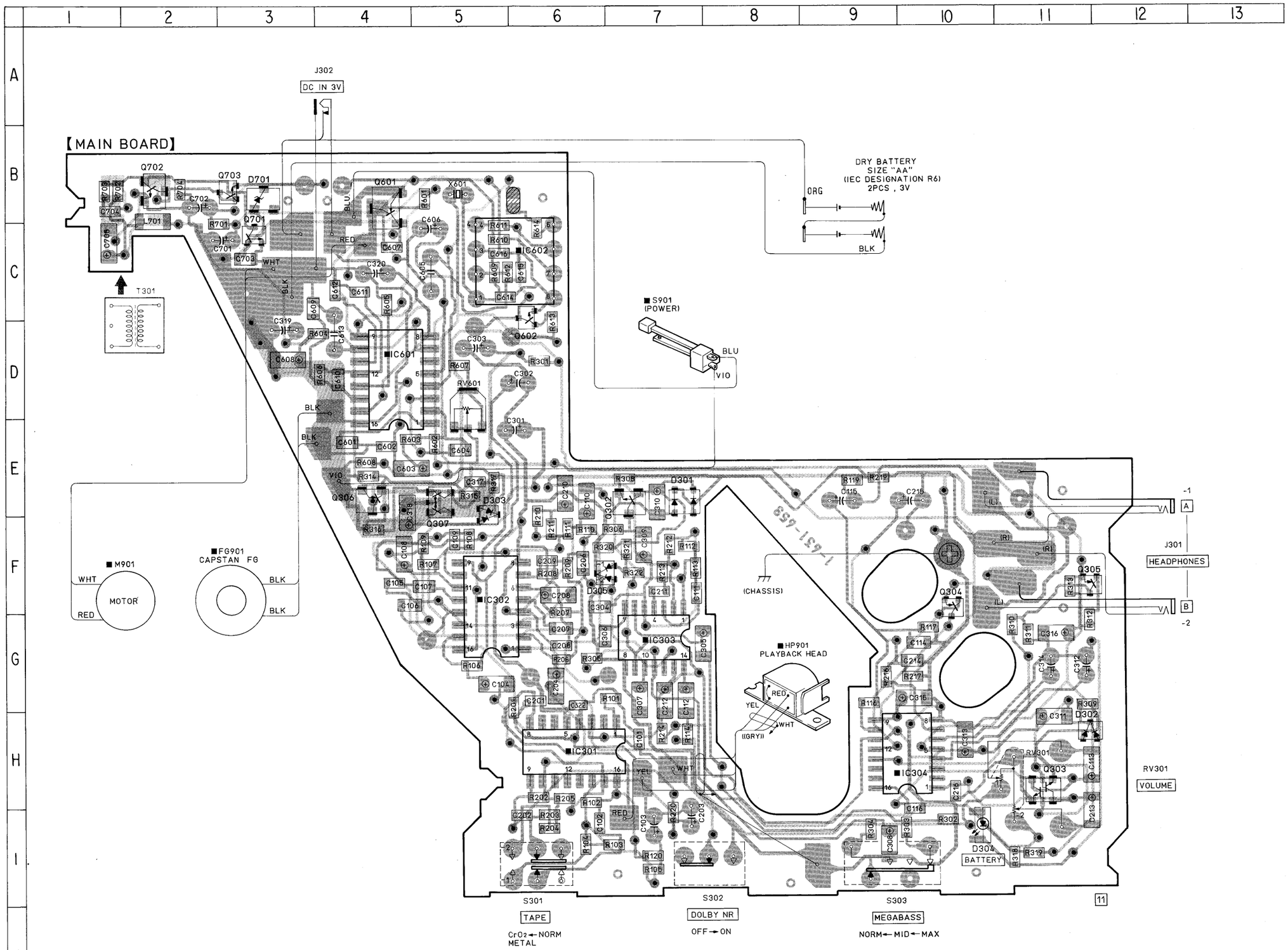


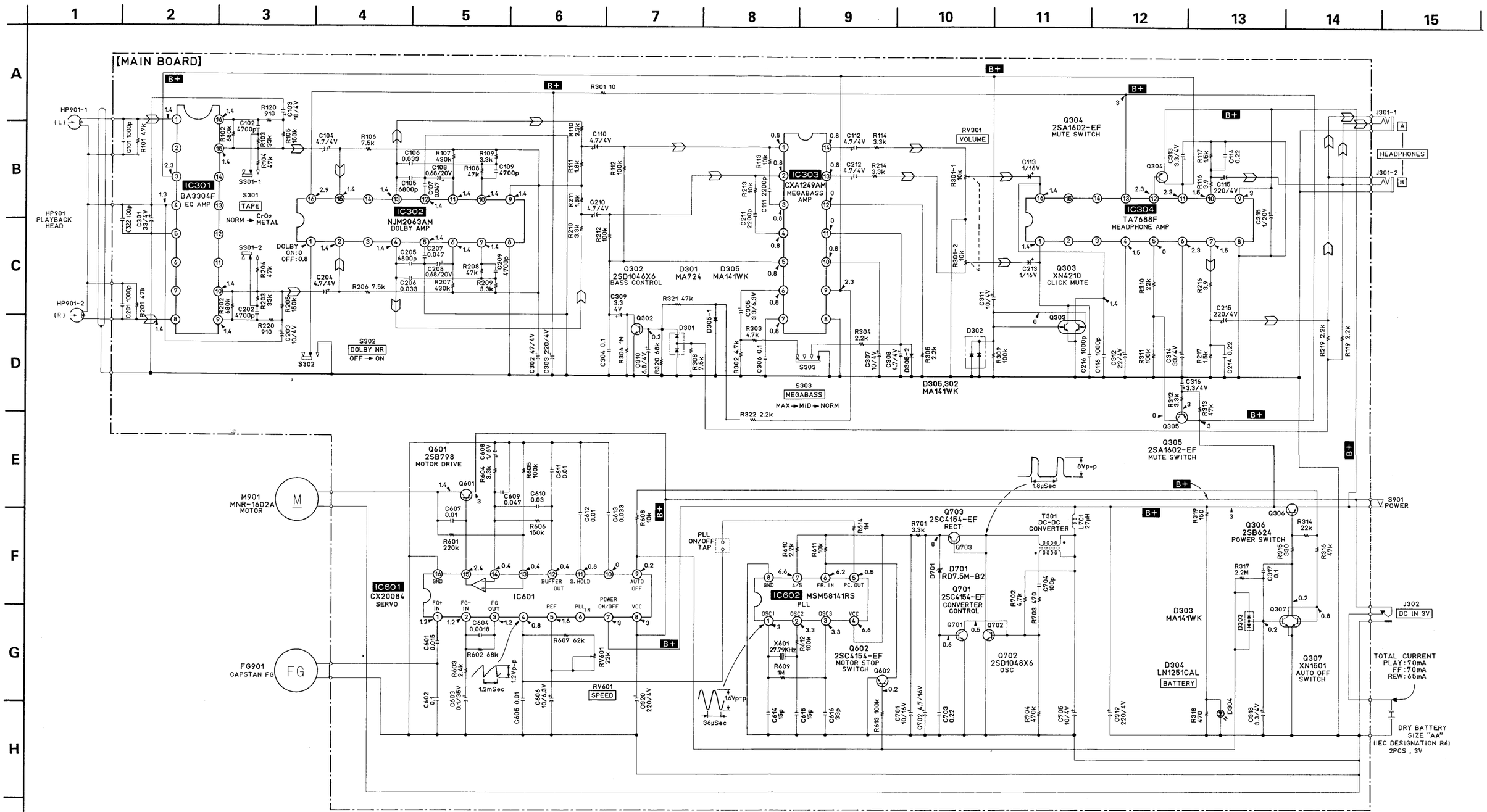
- Semiconductor Location

Ref. No.	Location
D301	E-7
D302	H-11
D303	E-5
D304	I-10
D305	F-6
D701	B-3
IC301	H-6
IC302	F-5
IC303	G-7
IC304	H-10
IC601	D-4
IC602	C-6
Q302	E-7
Q303	H-11
Q304	F-10
Q305	F-11
Q306	E-4
Q307	E-5
Q601	B-4
Q602	C-6
Q701	C-3
Q702	B-2
Q703	B-3

N te n Mounting Diagram:

- o—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern of the rear side.





Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- Switch

Ref. N .	Switch	Position
S301	TAPE	NORM
S302	DOLBY NR	OFF
S303	MEGABASS	MAX
S901	POWER	ON

- B+ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 3 V and fed with regulated dc power supply from external power voltage jack.
  Voltages are taken with a VOM (Input impedance 10M Ω).
  Voltage variations may be noted due to normal production tolerances.

Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
Signal path.
▷ : L-CH signal path

SECTION 5
EXPLODED VIEWS

NOTE:

The mechanical parts with no reference number in the exploded views are not supplied.

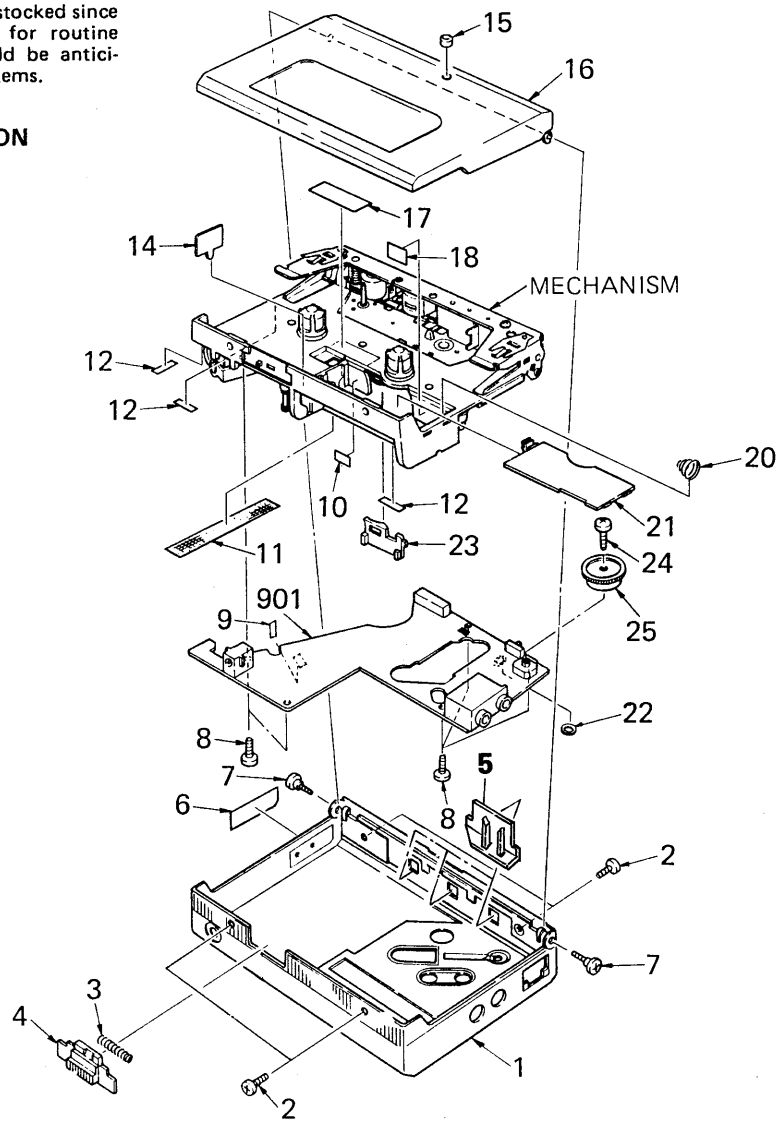
The construction parts of an assembled part are indicated with a collation number in the remark column.

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

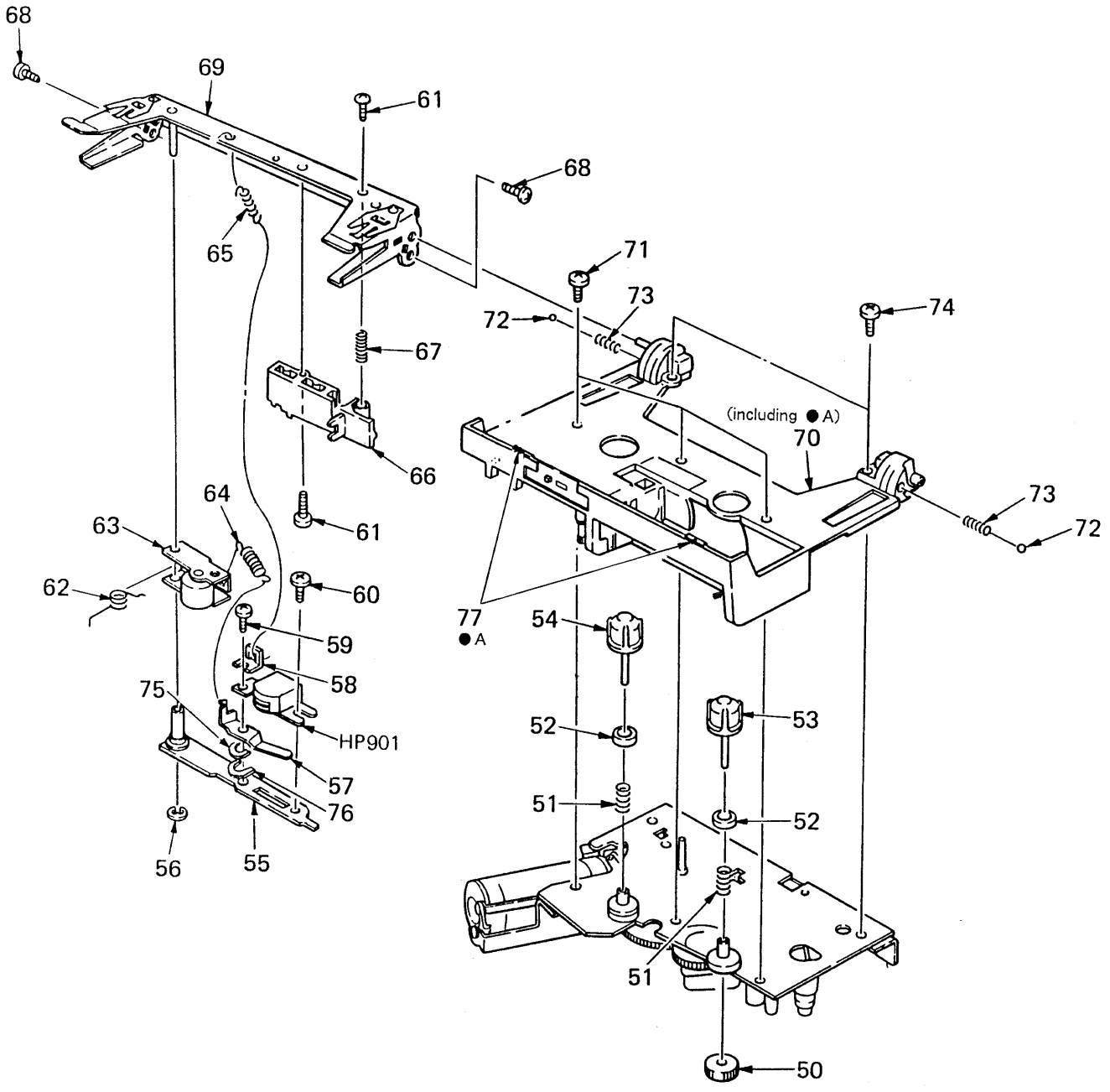
Color Indication of Appearance Parts
Example:
(RED) . . . KNOB, BALANCE (WHITE)
↑ ↑
Cabinet's Color Parts Color

5-1. GENERAL SECTION



No.	Part No.	Description	Remarks
1	X-3310-980-1	(SILVER)...PANEL ASSY, CONTROL (AEP)	
	X-3310-981-1	(BLACK)....PANEL ASSY, CONTROL (UK)	
	X-3310-982-1	(RED).....PANEL ASSY, CONTROL (AEP)	
2	3-704-246-31	(SILVER).....SCREW (P1.4X2.5) (AEP)	
	3-704-246-32	(BLACK,RED)...SCREW (P1.4X2.5)	
3	3-310-947-00	SPRING, COMPRESSION	
4	3-310-983-02	BUTTON, LOCK	
5	3-343-536-01	KNOB, SELECTION (BLK)	
	3-343-536-11	KNOB, SELECTION (YEL)	
6	3-343-535-01	(SILVER).....LABEL, MODEL NUMBER	
	3-343-535-11	(BLACK,RED)...LABEL, MODEL NUMBER	
7	3-307-831-00	SCREW, PANEL	
8	3-335-797-21	SCREW (M1.4X3), TOOTHED LOCK	
9	3-831-441-11	CUSHION (B)	
10	9-911-838-XX	CUSHION, METER	
11	9-911-816-01	CLOTH, DRAWER, BATTERY	
12	3-831-441-XX	SPACER	
14	3-578-109-00	CONTACT	
15	3-578-232-00	(SILVER)...ORNAMENT, ADJUSTMENT HOLE (AEP)	
	3-578-232-11	(RED).....ORNAMENT, ADJUSTMENT HOLE (AEP)	
	3-578-232-21	(BLACK)....ORNAMENT, ADJUSTMENT HOLE (UK)	
16	X-3310-983-1	(SILVER)...CABINET (CASSETTE) ASSY (AEP)	
	X-3310-984-1	(BLACK)....CABINET (CASSETTE) ASSY (UK)	
	X-3310-985-1	(RED).....CABINET (CASSETTE) ASSY (AEP)	
17	3-578-101-00	PLATE, ORNAMENTAL	
20	3-578-236-00	SPRING (BATTERY)	
21	3-578-115-00	LID, BATTERY CASE	
23	3-578-114-00	PANEL, CHASSIS	
24	7-627-850-58	SCREW, PRECISION +P 1.4X3.5	
25	3-324-431-01	KNOB, VOL	
901	A-3216-871-A	PC BOARD ASSY, MAIN	

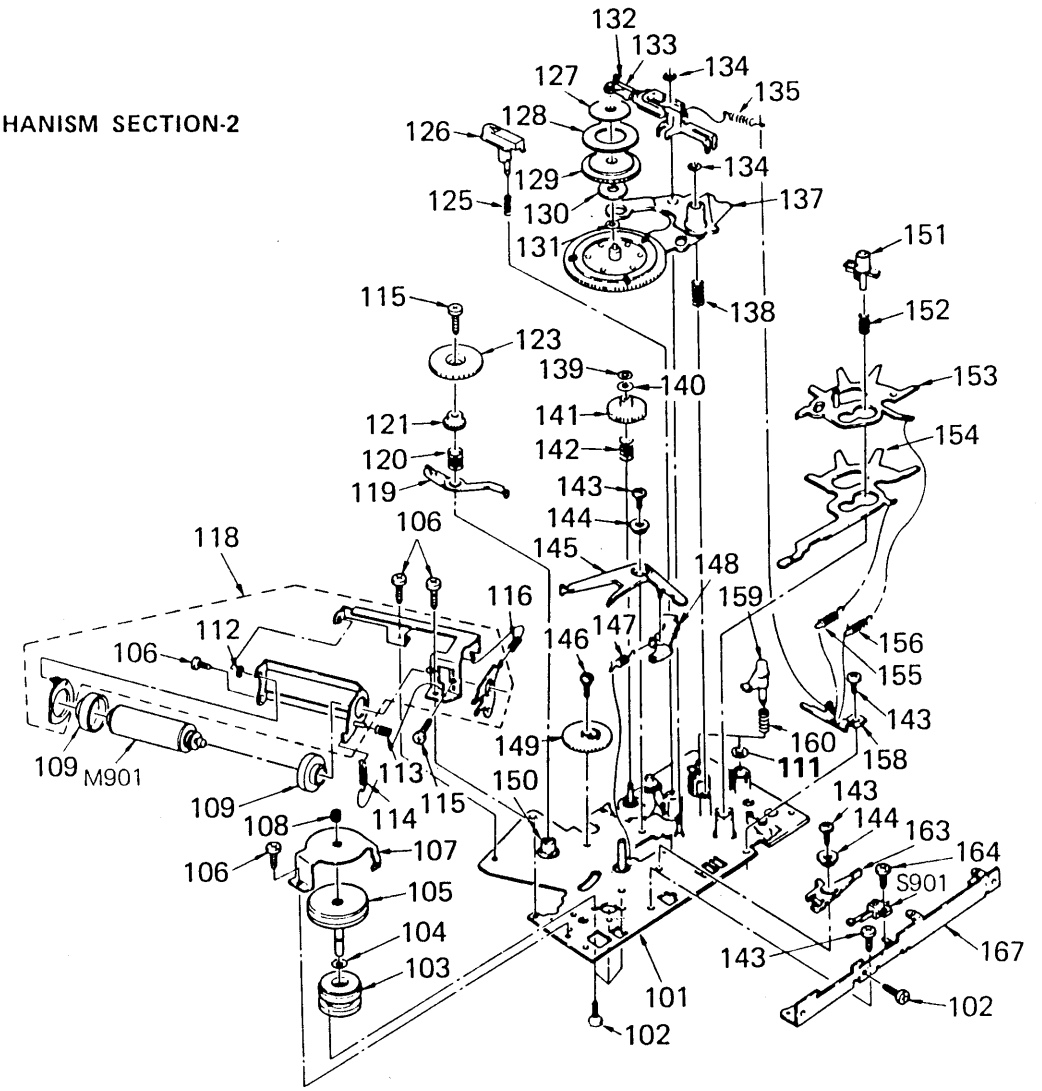
5-2. MECHANISM SECTION-1



No.	Part No.	Description	Remarks
50	3-578-158-00	GEAR, S	
51	3-578-123-00	SPRING, COMPRESSION	
52	3-310-958-00	WASHER	
53	X-3578-126-0	CLAW ASSY, REEL	
54	X-3578-115-0	CLAW ASSY, REEL	
55	*X-3578-105-0	CHASSIS ASSY, HEAD	
56	3-327-710-01	RING, RETAINING	
57	3-578-181-00	SPRING	
58	3-310-971-01	HOOK, SPRING	
59	7-627-553-37	SCREW, PRECISION +P 2X3	
60	7-627-554-17	SCREW, PRECISION +P 2X3.5 TYPE1	
61	7-627-553-98	SCREW, PRECISION +P 2X8	
62	3-578-146-00	SPRING	
63	X-3578-137-0	PINCH ROLLER ASSY	

No.	Part No.	Description	Remarks
64	3-578-220-00	SPRING, TENSION	
65	3-343-568-01	SPRING, TENSION	
66	X-3310-935-1	COVER ASSY, ERASE HEAD	
67	3-578-128-00	SPRING, COMPRESSION	
68	7-627-551-28	SCREW, PRECISION +P 1.4X2.5	
69	X-3310-908-0	HOLDER ASSY	
70	X-3310-910-0	CHASSIS ASSY	
71	7-627-850-48	+P 1.4X1.6	
72	7-671-154-01	STEEL, BALL	
73	3-578-127-00	SPRING, COMPRESSION	
74	7-627-851-27	SCREW, PRECISION +P 1.4X5	
75	3-578-138-01	SHIM	
76	3-578-138-11	SHIM	
77	3-578-141-00	SPRING	
HP901	1-543-423-21	HEAD, MAGNETIC (PLAYBACK)	

5-3. MECHANISM SECTION-2



No.	Part No.	Description	Remarks
101	*X-3310-909-0	CHASSIS ASSY, SUB	
102	7-627-451-87	SCREW, PRECISION +K 1.4X2.2	
103	X-3310-907-0	STATOR ASSY	
104	3-357-259-01	WASHER	
105	X-3310-931-1	ROTOR ASSY	
106	7-627-850-79	SCREW, PRECISION +P1.4X1.8TYPE3	
107	3-310-930-00	PLATE, THRUST	
108	3-547-625-00	SCREW, THRUST ADJUST	
109	3-310-939-00	RUBBER, VIBRATION PROOF	
111	3-305-530-00	WASHER	
112	7-624-102-04	STOP RING 1.5, TYPE -E	
113	3-310-993-01	SPRING, COMPRESSION	
114	3-310-948-00	SPRING, TENSION	
115	7-627-851-17	SCREW, PRECISION +P 1.4X4.5	
116	3-310-921-00	SPRING, COMPRESSION	
118	X-3310-932-1	MOTOR BRACKET	
119	3-578-154-00	LEVER, DETECTION	
120	3-578-124-00	SPRING, COMPRESSION	
121	3-578-244-01	GEAR, FF	
123	3-310-914-00	GEAR, FWD	
125	3-578-249-00	SPRING, COMPRESSION (FWD BUTTON)	
126	X-3310-949-1	BUTTON ASSY, PLAY	
127	3-310-916-00	PLATE (B), HYSTERESIS	
128	3-310-920-00	PLATE (C), HYSTERESIS	
129	3-310-915-11	GEAR (B), DRIVING	
130	3-701-444-11	WASHER	
131	3-578-224-00	WASHER	
132	3-578-130-00	SPRING	
133	X-3578-121-0	LEVER ASSY, FWD	

No.	Part No.	Description	Remarks
134	3-578-224-11	WASHER	
135	3-310-959-00	SPRING, TENSION	
137	X-3578-142-0	LEVER (A) ASSY, DRIVING	
138	3-578-199-00	SPRING, COMPRESSION	
139	3-578-265-00	WASHER	
140	3-701-436-01	WASHER	
141	3-578-162-00	GEAR, REW	
142	3-578-221-00	SPRING, COMPRESSION	
143	7-627-850-47	SCREW (+P1.4X1.6), PRECISION	
144	*3-578-149-00	SHAFT, LEVER (A), SHUT-OFF	
145	3-578-157-00	LEVER (B), SHUT-OFF	
146	3-578-214-00	SHAFT, GEAR, SHUT-OFF	
147	3-578-126-00	SPRING, TENSION	
148	3-305-509-00	LEVER (A), SHUTT-OFF	
149	3-578-178-00	GEAR, SHUT-OFF	
150	3-578-151-00	SHAFT, GEAR, FWD	
151	X-3310-948-1	BUTTON ASSY, STOP	
152	3-578-121-00	SPRING, COMPRESSION	
153	X-3578-114-0	PLATE ASSY, LOCK	
154	3-310-935-00	LEVER, SWITCH	
155	3-561-627-00	SPRING, TENSION	
156	3-578-277-00	SPRING, TENSION	
158	*3-578-196-00	HOOK, SPRING	
159	X-3310-947-1	BUTTON ASSY, F.R	
160	3-578-278-00	SPRING, COMPRESSION	
163	3-578-183-00	LEVER, RETURN, S	
164	7-627-850-18	SCREW, PRECISION +P 1.4X2.5	
167	*X-3310-979-1	BRAKET ASSY, PANEL	
M901	X-3310-986-1	MOTOR ASSY	
S901	1-553-226-00	SWITCH, LEAF (POWER)	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

Ref.No.	Part No.	Description		
901	A-3216-871-A	PC BOARD ASSY, MAIN		
C101	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C102	1-162-968-11	CERAMIC CHIP 0.0047MF	10%	50V
C103	1-126-157-11	ELECT 10MF	20%	6.3V
C104	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C105	1-162-969-11	CERAMIC CHIP 0.0068MF	10%	25V
C106	1-163-989-11	CERAMIC CHIP 0.033MF	5%	25V
C107	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C108	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V
C109	1-162-968-11	CERAMIC CHIP 0.0047MF	10%	50V
C110	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C111	1-162-966-11	CERAMIC CHIP 0.0022MF	10%	50V
C112	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C113	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C114	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C115	1-124-434-00	ELECT 220MF	20%	4V
C116	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C201	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C202	1-162-968-11	CERAMIC CHIP 0.0047MF	10%	50V
C203	1-126-157-11	ELECT 10MF	20%	6.3V
C204	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C205	1-162-969-11	CERAMIC CHIP 0.0068MF	10%	25V
C206	1-163-989-11	CERAMIC CHIP 0.033MF	5%	25V
C207	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C208	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V
C209	1-162-968-11	CERAMIC CHIP 0.0047MF	10%	50V
C210	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C211	1-162-966-11	CERAMIC CHIP 0.0022MF	10%	50V
C212	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C213	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C214	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C215	1-124-434-00	ELECT 220MF	20%	4V
C216	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C301	1-124-431-00	ELECT 33MF	20%	4V
C302	1-124-432-00	ELECT 47MF	20%	4V
C303	1-124-434-00	ELECT 220MF	20%	4V
C304	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C305	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C306	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C307	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C308	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C309	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C310	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V

Ref.No.	Part No.	Description		
C311	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C312	1-124-430-00	ELECT 22MF	20%	4V
C313	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C314	1-124-431-00	ELECT 33MF	20%	4V
C315	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C316	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C317	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C318	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C319	1-124-434-00	ELECT 220MF	20%	4V
C320	1-124-434-00	ELECT 220MF	20%	4V
C322	1-162-953-11	CERAMIC CHIP 100P	5%	50V
C601	1-163-023-00	CERAMIC CHIP 0.015MF	10%	50V
C602	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C603	1-135-070-00	TANTAL. CHIP 0.1MF	20%	35V
C604	1-163-012-00	CERAMIC CHIP 0.0018MF	10%	50V
C605	1-130-483-00	MYLAR 0.01MF	5%	50V
C606	1-126-157-11	ELECT 10MF	20%	6.3V
C607	1-162-970-11	CERAMIC CHIP 0.01MF	5%	25V
C608	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C609	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C610	1-163-810-00	CERAMIC CHIP 0.03MF	10%	25V
C611	1-162-970-11	CERAMIC CHIP 0.01MF	5%	25V
C612	1-162-970-11	CERAMIC CHIP 0.01MF	5%	25V
C613	1-130-489-00	MYLAR 0.033MF	5%	50V
C614	1-162-943-11	CERAMIC CHIP 15PF	5%	50V
C615	1-162-943-11	CERAMIC CHIP 15PF	5%	50V
C616	1-162-947-11	CERAMIC CHIP 33PF	5%	50V
C701	1-126-157-11	ELECT 10MF	20%	16V
C702	1-126-156-11	ELECT 4.7MF	20%	16V
C703	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C704	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C705	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
D301	8-719-420-77	DIODE MA724		
D302	8-719-404-35	DIODE MA141WK		
D303	8-719-404-35	DIODE MA141WK		
D304	8-719-420-74	DIODE LN1251CA		
D305	8-719-404-35	DIODE MA141WK		
D701	8-719-106-23	DIODE RD7.5M-B2		
HP901	1-543-423-21	HEAD, MAGNETIC (PLAYBACK)		
IC301	8-759-910-18	IC BA3304F		
IC302	8-759-701-07	IC NJM2063AM		
IC303	8-759-805-09	IC CXA1249M		
IC304	8-759-205-43	IC TA7688F-SO		
IC601	8-759-909-45	IC CX20084		
IC602	8-759-958-14	IC MSM5814IRS		

Ref.No.	Part No.	Description
J301	1-507-727-00	JACK 2P (HEADPHONES)
J302	1-568-228-11	JACK, EXTERNAL POWER (DC IN)
L701	1-410-209-51	INDUCTOR CHIP 27UH
M901	X-3310-986-1	MOTOR ASSY
Q302	8-729-800-36	TRANSISTOR 2SD1048X6
Q303	8-729-403-24	TRANSISTOR XN4210
Q304	8-729-620-09	TRANSISTOR 2SA1602-EF
Q305	8-729-620-09	TRANSISTOR 2SA1602-EF
Q306	8-729-162-44	TRANSISTOR 2SB624-BV4
Q307	8-729-421-23	TRANSISTOR XN1216
Q601	8-729-104-26	TRANSISTOR 2SB804-AW
Q602	8-729-620-12	TRANSISTOR 2SC4154-EF
Q701	8-729-620-12	TRANSISTOR 2SC4154-EF
Q702	8-729-800-36	TRANSISTOR 2SD1048X6
Q703	8-729-620-12	TRANSISTOR 2SC4154-EF
R101	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R102	1-216-855-11	METAL GLAZE 680K 5% 1/16W
R103	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R104	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R105	1-216-847-11	METAL GLAZE 150K 5% 1/16W
R106	1-218-344-11	METAL GLAZE 7.5K 5% 1/16W
R107	1-218-448-11	METAL GLAZE 430K 5% 1/16W
R108	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R109	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R110	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R111	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R112	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R113	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R114	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R116	1-216-792-11	METAL GLAZE 3.9 5% 1/16W
R117	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R119	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R120	1-218-457-11	METAL GLAZE 910 5% 1/16W
R201	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R202	1-216-855-11	METAL GLAZE 680K 5% 1/16W
R203	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R204	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R205	1-216-847-11	METAL GLAZE 150K 5% 1/16W
R206	1-218-344-11	METAL GLAZE 7.5K 5% 1/16W
R207	1-218-448-11	METAL GLAZE 430K 5% 1/16W
R208	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R209	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R210	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R211	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R212	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R213	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R214	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R216	1-216-792-11	METAL GLAZE 3.9 5% 1/16W
R217	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R219	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R220	1-218-457-11	METAL GLAZE 910 5% 1/16W
R301	1-216-797-11	METAL GLAZE 10 5% 1/16W
R302	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W
R303	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W
R304	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R305	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R306	1-216-857-11	METAL GLAZE 1M 5% 1/16W
R307	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R308	1-218-344-11	METAL GLAZE 7.5K 5% 1/16W
R309	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R310	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R311	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R312	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R313	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R314	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R315	1-216-815-11	METAL GLAZE 330 5% 1/16W
R316	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R317	1-216-861-11	METAL GLAZE 2.2M 5% 1/16W
R318	1-216-817-11	METAL GLAZE 470 5% 1/16W
R319	1-216-811-11	METAL GLAZE 150 5% 1/16W
R320	1-216-843-11	METAL GLAZE 68K 5% 1/16W
R321	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R322	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R601	1-216-849-11	METAL GLAZE 220K 5% 1/16W
R602	1-216-843-11	METAL GLAZE 68K 5% 1/16W
R603	1-216-993-11	METAL GLAZE 2.4K 5% 1/16W
R604	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R605	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R606	1-216-847-11	METAL GLAZE 150K 5% 1/16W
R607	1-218-447-11	METAL GLAZE 62K 5% 1/16W
R608	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R609	1-216-857-11	METAL GLAZE 1M 5% 1/16W
R610	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R611	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R612	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R613	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R614	1-216-857-11	METAL GLAZE 1M 5% 1/16W
R701	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W
R702	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W
R703	1-216-817-11	METAL GLAZE 470 5% 1/16W
R704	1-216-853-11	METAL GLAZE 470K 5% 1/16W
RV301	1-230-485-11	RES, VAR, CARBON 10K/10K (VOLUME)
RV601	1-238-714-11	RES, ADJ, METAL GLAZE 22K (SPEED)
S301	1-570-114-11	SWITCH, SLIDE (TAPE)
S302	1-553-510-00	SWITCH, SLIDE (DOLBY NR)
S303	1-570-096-11	SWITCH, SLIDE (MEGABASS)
S901	1-553-226-00	SWITCH, LEAF (POWER)
T301	1-447-697-00	TRANSFORMER, DC-DC CONVERTOR
X601	1-567-260-11	VIBRATOR, CRYSTAL (27.79kHz)

ACCESSORY & PACKING MATERIAL

3-343-543-01	INDIVIDUAL CARTON
3-343-540-01	CASE, CARRYNG
3-570-631-61	BAG, POLYETHYLENE
3-704-027-01	(AEP)...LABEL, COLOR (SILVER)
3-750-637-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH,PORTUGUESE)
3-750-637-41	(AEP)... MANUAL, INSTRUCTION (GERMANS,DUTCH,SWEDISH,ITALIAN)
8-952-472-90	HEADPHONE MDR-102 SET
*3-343-541-01	CUSHION (UPPER)
*3-343-542-01	CUSHION (LOWER)
3-351-508-01	TUBE, PROTECTION